

## CLAIMS

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1. An angular velocity sensor comprising:

a tuning fork (21) for outputting a signal responsive to angular velocity;

5 a first base (31) having a top face for securing a part of said tuning fork (21)

thereto;

a first cover (34) for covering said tuning fork (21) together with said first base (31);

a second rubber body (37) in contact with a top face of said first cover (34);

10 a first rubber body (35) having a top face in contact with a bottom face of said first base (31);

a supporting plate (54) having a top face in contact with a bottom face of said first rubber body (35);

a second base (50) disposed under said supporting plate (54); and

15 a second tubular cover (53) having a bottom and covering said tuning fork (21), said first base (31), said first cover (34), said second rubber body (37), said first rubber body (35), and said supporting plate (54) together with said second base (50);

wherein said first rubber body (35) and said second rubber body (37) are compressed and held by the top face of said supporting plate (54) and an inner ceiling of 20 said second cover (53).

2. The angular velocity sensor according to Claim 1 further comprising a circuit board having electronic components for processing said signal output from said tuning fork and provided between said supporting plate and said second base.

3. An angular velocity sensor comprising:

a tuning fork including:

a first oscillator having at least one of a driving electrode and a detecting electrode;

5 a second oscillator having at least one of a detecting electrode and a driving electrode; and

a joint for connecting one end of said first oscillator and one end of said second oscillator;

10 a first base having a top face for securing said joint and a plurality of terminal-insertion holes, each of said plurality of terminal-insertion holes allowing passage of a plurality of terminals electrically connected to one of said driving electrode and said detecting electrode;

a first cover secured on the top face of said first base and covering said tuning fork;

15 a first rubber body having a top face in contact with a bottom face of said first base;

a supporting plate having a placement part having a top face for placing said first rubber body;

20 a second rubber body provided so as to be in contact with a top face of said first cover;

a circuit board provided under said first base and having electronic components for processing output signal generated by angular velocity from said detecting electrode, said circuit board having a power-supply terminal, ground terminal and output terminal projecting downwardly;

25 a second base provided under said circuit board and having through holes,

said through holes allowing passage and securing of said power-supply terminal, said ground terminal and said output terminal thereto; and

a second tubular cover having a bottom secured to a top face of said second base, and covering said tuning fork, said first base, said first cover, said first rubber body,  
5 said second rubber body, said supporting plate and said circuit board;

wherein said supporting plate is placed above a top face of said second base via a plurality of supports so as to provide a space between the top face of said second base and said supporting plate and the top face of said supporting plate and a inner ceiling of said second cover compress said first rubber body and said second rubber body.

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4. The angular velocity sensor according to Claim 3 wherein a first recess is provided on a bottom face of said second rubber body, a step is provided in an inner ceiling of said first recess, a bottom face of said step and said top face of said first cover are brought into contact with each other, and second recesses further protruding outwardly are  
15 provided on inner side faces of said first recess.

5. The angular velocity sensor according to Claim 4 wherein said first recess in said second rubber body is shaped to a rectangular parallelepiped, said step is provided on an outer periphery of said inner ceiling of said first recess, said second recesses are  
20 provided only the portions along long sides of said first recess other than edges thereof, said first cover is shaped to a rectangular parallelepiped having an opening on a bottom thereof, said step in said second rubber body is brought into contact with an outer periphery of said top face of said first cover, and said edges of said long sides of said first recess in said second rubber body are brought into contact with outer side faces of said first  
25 cover.

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6. The angular velocity sensor according to one of Claims 3 to 5 wherein said first rubber body has escapes for receiving said plurality of terminals through said first base.

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7. The angular velocity sensor according to one of Claims 3 to 6 wherein side faces of said circuit board have notches for positioning said plurality of supports.

8. The angular velocity sensor according to one of Claims 3 to 7 wherein said 10 first base and said first cover are secured to each other so as to create a vacuum in an interior space formed therebetween.

9. The angular velocity sensor according to one of Claims 3 to 8 wherein said 15 plurality of supports of said supporting plate have broad-shouldered portions having a width larger than that of said notches.

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